IN THE CLAIMS

Please cancel claims 31-32, 35-36, and 42-43 without prejudice.

Please amend claims 2, 5, 8, 10, 15, 20, 26, 33-34, 37-38, and 44-45 as indicated

below.

1.   (Previously Presented) A method comprising:

coding of each tile of an input codestream into a plurality of layers;

outputting, as a part of a first pass, a plurality of packets of said each tile to an output

codestream as a first complete tile-part, the first complete tile-part representing a first layer of

the plurality of layers;

storing remaining layers of said each tile in a buffer; and

outputting, as a part of a second pass, additional packets of said each tile from the

remaining layers as a second complete tile-part if remaining unused bandwidth of the output

codestream is available based on a desired bandwidth of the output codestream.

2.   (Currently Amended) The method defined in Claim 1 wherein selection of packets of

the plurality of packets for inclusion in the first complete tile-part is based on the desired

bandwidth of the output codestream ~~total bitrate for the first and second passes~~.

3.   (Previously Presented) The method defined in Claim 1 wherein number of the

additional packets output to the output codestream is determined based on a bitrate of the

output codestream.

Application Serial No. 09/800,633   -4-   Atty. Docket No. 074451.P127D9

PAGE 8/22 * RCVD AT 11/22/2004 8:11:40 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/3 * DNIS:8729306 * CSID:408 720 9397 * DURATION (mm-ss):05-52

4.   (Previously Presented) An apparatus comprising:

means for coding of each tile of an input codestream into a plurality of layers;

means for outputting, as a part of a first pass, a plurality of packets of said each tile to an

output codestream as a first complete tile-part, the first complete tile-part representing a first

layer of the plurality of layers;

means for storing remaining layers of said each tile in a buffer; and

means for outputting, as a part of a second pass, additional packets of said each tile from

the remaining layers as a second complete tile-part if remaining unused bandwidth of the

output codestream is available based on a desired bandwidth of the output codestream.

5.   (Currently Amended) The apparatus defined in Claim 4 wherein selection of packets

of the plurality of packets for inclusion in the first complete tile-part is based on <u>the desired</u>

<u>bandwidth of the output codestream</u> ~~total bitrate for the first and second passes~~.

6.   (Previously Presented) The apparatus defined in Claim 4 number of the additional

packets output to the output codestream is determined based on a bitrate of the output

codestream.

7.   (Previously Presented) An article of manufacture comprising at least one recordable

media storing executable instructions thereon which, when executed by a processing device,

cause the processing device to:

code of each tile of an input codestream into a plurality of layers;

output, as a part of a first pass, a plurality of packets of said each tile to an output

codestream as a first complete tile-part, the first complete tile-part representing a first layer of

the plurality of layers;

store remaining layers of said each tile in a buffer; and

output, as a part of a second pass, additional packets of said each tile from the remaining

layers as a second complete tile-part if remaining unused bandwidth of the output codestream

is available based on a desired bandwidth of the output codestream.

8.   (Currently Amended) The article of manufacture defined in Claim 7 wherein selection

of packets of the plurality of packets for inclusion in the first complete tile-part is based on the

desired bandwidth of the output codestream total bitrate for the first and second passes.

9.   (Previously Presented) The article of manufacture defined in Claim 7 number of the

additional packets output to the output codestream is determined based on a bitrate of the

output codestream.

10.   (Currently Amended) A method comprising:

compressing a bitstream to create an original compressed codestream;

performing rate control on the original compressed codestream to created create a new

compressed codestream in response to a request by selecting a number of layers to remain in

the codestream, including a parser using a packet structure containing a selection flag and

setting a selection flag for each packet of the original codestream to a predetermined value to

indicate whether said each packet is to be included in the new compressed codestream,

wherein the packet structure is a member of an array of packet structures, each of the packet structures in the array corresponding to each of the layers of each tile in the original compressed codestream, and

wherein the packet structure further comprises a first portion to store a starting pointer of a respective layer of a tile, a second portion to store a size of the respective layer of a tile, and a third portion to store a tile number for identifying a tile with which the respective packet structure is associated with.

11.   (Original) The method defined in Claim 10 further comprising:

computing a total number of bytes for the new compressed codestream based on a desired rate;

adding the total number of bytes associated with at least one layer, starting with the most important layer and adding a new layer until the total number of bytes associated with the one or more layers whose bytes have been added is equal to or greater than the number of bytes desired or bytes for all layers have been added;

subtracting bytes associated with a last added layer when the total number of bytes associated with the one or more layers whose bytes have been added is greater than the number of bytes desired; and

setting selection flags of packets associated with layers whose bytes are included in the total number of bytes.

12.   (Original) The method defined in Claim 10 further comprising writing the new codestream based on whether selection flags of packets for the original compressed codestream are set.

13.   (Original) The method defined in Claim 10 further comprising reading packets in

sequential order from the compressed codestream based on order information indicated in a

marker.

14.   .(Original) The method defined in Claim 13' wherein the order information comprises

progression order information and the marker comprises a COD marker.

15.   (Currently Amended) A apparatus comprising:

        means for compressing a bitstream to create an original compressed codestream;

        means for performing rate control on the original compressed codestream to ~~created~~

create a new compressed codestream in response to a request by selecting a number of layers

to remain in the codestream, including a parser to use a packet structure containing a selection

flag and to set a selection flag for each packet of the original codestream to a predetermined

value to indicate whether said each packet is to be included in the new compressed

codestream to control whether individual layers are included in the new compressed

codestream,

        wherein the packet structure is a member of an array of packet structures, each of the

packet structures in the array corresponding to each of the layers of each tile in the original

compressed codestream, and

        wherein the packet structure further comprises a first portion to store a starting pointer

of a respective layer of a tile, a second portion to store a size of the respective layer of a tile,

and a third portion to store a tile number for identifying a tile with which the respective packet

structure is associated with.

Application Serial No. 09/800,633   -8-   Atty. Docket No. 074451.P127D9

16.   (Original) The apparatus defined in Claim 15 further comprising:

means for computing a total number of bytes for the new compressed codestream

based on a desired rate;

means for adding the total number of bytes associated with at least one layer, starting

with the highest level layer and adding a new layer until the total number of bytes associated

with the one or more layers whose bytes have been added is equal to or greater than the

number of bytes desired or bytes for all layers have been added;

means for subtracting bytes associated with a last added layer when the total number

of bytes associated with the one or more layers whose bytes have been added is greater than

the number of bytes desired; and

means for setting selection flags of packets associated with layers whose bytes are

included in the total number of bytes.

17.   (Original) The apparatus defined in Claim 15 further comprising means for writing

the new codestream based on whether selection flags of packets for the original compressed

codestream are set.

18.   (Previously Presented) The apparatus defined in Claim 15 further comprising means

for reading packets in sequential order from the compressed codestream based on order

information indicated in a marker.

19.   (Original) The apparatus defined in Claim 18 wherein the order information

comprises progression order information and the marker comprises a COD marker.

Application Serial No. 09/800,633   -9-   Atty. Docket No. 074451.P127D9

PAGE 13/22 * RCVD AT 11/22/2004 8:11:40 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/3 * DNIS:8729306 * CSID:408 720 9397 * DURATION (mm-ss):05-52

20.   (Currently Amended) An article of manufacture comprising one or more recordable

media having executable instructions stored thereon which, when executed by a machine,

cause the machine to:

compress a bitstream to create an original compressed codestream;

perform rate control on the original compressed codestream to ~~created~~ create a new

compressed codestream in response to a request by selecting a number of layers to remain in

the codestream, including a parser using a packet structure containing a selection flag and

setting a selection flag in each packet of the original codestream to a predetermined value to

indicate whether said each packet is to be included in the new compressed codestream,

wherein the packet structure is a member of an array of packet structures, each of the

packet structures in the array corresponding to each of the layers of each tile in the original

compressed codestream, and

wherein the packet structure further comprises a first portion to store a starting pointer

of a respective layer of a tile, a second portion to store a size of the respective layer of a tile,

and a third portion to store a tile number for identifying a tile with which the respective packet

structure is associated with.

21.   (Original) The article of manufacture defined in Claim 20 further comprising

instructions which, when executed by the machine, cause the machine to:

compute a total number of bytes for the new compressed codestream based on a

desired rate;

add the total number of bytes associated with at least one layer, starting with the

highest level layer and adding a new layer until the total number of bytes associated with the

Application Serial No. 09/800,633   -10-   Atty. Docket No. 074451.P127D9

one or more layers whose bytes have been added is equal to or greater than the number of

bytes desired or bytes for all layers have been added;

subtract bytes associated with a last added layer when the total number of bytes

associated with the one or more layers whose bytes have been added is greater than the

number of bytes desired; and

set selection flags of packets associated with layers whose bytes are included in the

total number of bytes.

22.   (Previously Presented)   The method defined in Claim 1 wherein the first

complete tile-part is transmitted in a first bitrate and the second complete tile-part is

transmitted in a second bitrate, wherein each of the first and second bitrates is less than an

average desired bitrate of the output codestream.

23.   (Previously Presented)   The method defined in Claim 22 wherein a total of the

first and second bitrates is equal to or greater than the average desired bitrate of the output

codestream.

24.   (Previously Presented)   The method defined in Claim 1 wherein during the

second pass, the second complete tile-part receives more additional packets from the

remaining layers stored in the buffer for tiles having higher distortion than tiles having lower

distortion.

25.   (Previously Presented)   The apparatus defined in Claim 4 wherein the first

complete tile-part is transmitted in a first bitrate and the second complete tile-part is

Application Serial No. 09/800,633   -11-   Atty. Docket No. 074451.P127D9

transmitted in a second bitrate, wherein each of the first and second bitrates is less than an

average desired bitrate of the output codestream.

26.   (Currently Amended) The apparatus defined in Claim [[24]] 25 wherein a total of the

first and second bitrates is equal to or greater than the average desired bitrate of the output

codestream.

27.   (Previously Presented)   The apparatus defined in Claim 4 wherein during the

second pass, the second complete tile-part receives more additional packets from the

remaining layers stored in the buffer for tiles having higher distortion than tiles having lower

distortion.

28.   (Previously Presented)   The article of manufacture defined in Claim 7 wherein

the first complete tile-part is transmitted in a first bitrate and the second complete tile-part is

transmitted in a second bitrate, wherein each of the first and second bitrates is less than an

average desired bitrate of the output codestream.

29.   (Previously Presented)   The article of manufacture defined in Claim 27 wherein

a total of the first and second bitrates is equal to or greater than the average desired bitrate of

the output codestream.

30.   (Previously Presented)   The article of manufacture defined in Claim 7 wherein

during the second pass, the second complete tile-part receives more additional packets from

Application Serial No. 09/800,633   -12-   Atty. Docket No. 074451.P127D9

the remaining layers stored in the buffer for tiles having higher distortion than tiles having lower distortion.

31. – 32.   (Canceled)

33.   (Currently Amended) The method defined in Claim [[31]] 10 wherein the packet structure further comprises:

a fourth portion to store resolution information of a tile that the respective packet structure associates with;

a fifth portion to store component information of a tile that the respective packet structure associates with;

a sixth portion to store layer information of a tile that the respective packet structure associates with; and

a seventh portion to store precinct information of a tile that the respective packet structure associates with.

34.   (Currently Amended) The method defined Claim [[32]] 33 wherein the resolution, component, layer, and precinct information is used to identify a progression order of the respective layer of a tile.

35. – 36.   (Canceled)

37.   (Currently Amended) The apparatus defined in Claim [[35]] 15 wherein the packet structure further comprises:

Application Serial No. 09/800,633   -13-   Atty. Docket No. 074451.P127D9

a fourth portion to store resolution information of a tile that the respective packet structure associates with;

a fifth portion to store component information of a tile that the respective packet structure associates with;

a sixth portion to store layer information of a tile that the respective packet structure associates with; and

a seventh portion to store precinct information of a tile that the respective packet structure associates with.

38.   (Currently Amended) The apparatus defined Claim [[35]] 37 wherein the resolution, component, layer, and precinct information is used to identify a progression order of the respective layer of a tile.

39.   (Previously Presented) The article of manufacture defined in Claim 20 wherein the executable instructions further cause the machine to write the new codestream based on whether selection flags of packets for the original compressed codestream are set.

40.   (Previously Presented) The article of manufacture defined in Claim 20 wherein the executable instructions further cause the machine to read packets in sequential order from the compressed codestream based on order information indicated in a marker.

41.   (Previously Presented) The article of manufacture defined in Claim 39 wherein the order information comprises progression order information and the marker comprises a COD marker.

42. – 43.   (Canceled)

44.   (Currently Amended) The article of manufacture defined in Claim [[42]] 20 wherein the packet structure further comprises:

      a fourth portion to store resolution information of a tile that the respective packet structure associates with;

      a fifth portion to store component information of a tile that the respective packet structure associates with;

      a sixth portion to store layer information of a tile that the respective packet structure associates with; and

      a seventh portion to store precinct information of a tile that the respective packet structure associates with.

45.   (Currently Amended) The article of manufacture defined Claim [[43]] 44 wherein the resolution, component, layer, and precinct information is used to identify a progression order of the respective layer of a tile.